BEFORE
THE PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA
DOCKET NO. 89-481-C - ORDER NO. 90-571
JUNE 4, 1990

IN RE:

Application of Southern Bell Telephone and Telegraph Company for Approval of New VG/ELG Depreciation Rates and Amortization Schedules	)	ORDER DENYING PETITION FOR RECONSIDERATION AND AFFIRMING ORDER NO. 90-330

This matter comes before the Public Service Commission of South Carolina ("the Commission") by virtue of a Petition for Rehearing and Reconsideration ("Petition") by the South Carolina Cable Television Association ("SCCTA") whereby SCCTA has asked the Commission to reconsider Order NO. 90-330 issued in the above-referenced matter wherein the Commission granted to Southern Bell Telephone and Telegraph Company ("Southern Bell") additional intrastate depreciation expense of $14.8 million from a requested $30.0 million increase in depreciation expense.[1] Having reviewed its Petition, the Commission has determined that a reconsideration of the record from which it garnered the facts which formed the basis for our initial decision is unwarranted. The Commission continues to support Order No. 90-330, which is hereby affirmed, and further clarifies and supports its final Order as follows:

[1]Application of Southern Bell and Order No. 90-330, both of which are part of the record of this case.

I. THE SCCTA'S CONTENTION THAT DOCUMENTS WERE WITHHELD BY SOUTHERN BELL DURING DISCOVERY AND THAT SUCH DOCUMENTS CONSTITUTE "NEWLY DISCOVERED EVIDENCE" IS ERRONEOUS.

In its Petition, the SCCTA relies heavily upon a document produced by Southern Bell in a recent Florida depreciation proceeding which, according to the SCCTA, "exposes BellSouth's true intent" in placing fiber optic cable, i.e. to engage, allegedly, in competitive ventures at ratepayer's expense. The Commission has reviewed this document which was attached to the Petition and dismisses the allegations as being without merit.

First of all, SCCTA contends that certain of its Interrogatories and a "catch-all" provision of its Motion to Produce mandated the production of this document in the instant proceeding. The Commission disagrees. Interrogatory 1-8 of the SCCTA asked for studies upon which "Southern Bell relies ... in making a determination whether fiber to the home would or would not be economic." It is clear from a reading of Bell witness Prophitt's testimony and exhibit that this alleged document was not relied upon in formulating his South Carolina testimony. (See, e.g. Tr.Vol. I, pp. 38-41, 133 and Hearing Exhibit One) Next, SCCTA asserts Interrogatory 1-13 should have required the identification and production of this document. Again, a review of the document reveals that it is not involved with the issue of whether or not it is more expensive to maintain copper wire facilities than fiber, the pivotal provision of this Interrogatory.

Interrogatory 1-41 asks whether or not studies have been performed which "... determine whether ... the concentrations achieved by the use of fiber ... degrade the reliability of the system." Again, the document neither discusses this issue nor relates in any way thereto. As to Interrogatory 1-45, it is likewise clear that this document is not reached thereby. Nowhere is a discussion of "synchronous transmission equipment" contained in the document nor is the document a cost/benefit analysis or other study related to such an analysis.

The SCCTA asserts next that Interrogatory 3-2 was sufficiently broad to capture the document. That request for information is extremely narrow in seeking data related to two specific "fiber to the user" projects in South Carolina. The Commission's reading of the document submitted by the SCCTA clearly shows it not to be within the ambit of this discovery request. Finally, the SCCTA asked Southern Bell to produce documents identified in its responses to Interrogatories that were not otherwise requested specifically. As the Commission has determined that the document was not required to be identified under the wording of the SCCTA's interrogatories, the specific Request for Production upon which SCCTA relies is, on its face, not applicable.[2]

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[2]In Florida PSC Docket No. 890256-TL, the Public Counsel asked Southern Bell to "Please provide each document ... analyzing, discussing or evaluating the effect of your anticipated entrance
(Continued on next page)

The SCCTA's assertion that the document constitutes "newly discovered evidence" also fails to withstand scrutiny. For a party to seek a new trial on the basis of evidence not discovered until the close of evidence, it must show that, through the exercise of due diligence, the information could not have been discovered before trial. Bettis v. Busbee, 323 S.E.2d 536, 283 S.C. 502 (S.C. App. 1984); Boykin v. Capehart, 31 S.E.2d 506, 205 S.C. 276 (1944) It is simply impossible for the SCCTA to make that showing.

To assert or imply that Southern Bell withheld the document does not make sense given the production without objection of the document in the Florida proceeding.[3] Secondly, as shown by the discussion above, it is patently clear that the SCCTA did not ask for the document it now claims to be "newly discovered." It is then impossible for the SCCTA to show, nor has it shown anywhere in its Petition, that due diligence was exercised in trying to obtain this evidence.

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into the cable TV market, or your anticipated provisioning of cable TV transport ..." The Commission, although not determinative of our decision herein, sua sponte takes judicial notice of the wording of that discovery request and the fact that Southern Bell provided the document at issue herein in response thereto. Having failed to ask the right questions, the SCCTA can hardly be heard to complain of not getting an answer to a question never asked.

[3]As the SCCTA called our attention to Florida PSC Docket NO. 890256-TL, we, sua sponte on reconsideration, take judicial notice of the fact that witness Cresse who appeared for the SCCTA in this proceeding also appeared for the Florida Cable TV Association and, in that role, had access to the document at issue months in advance of our hearings.

Notwithstanding the above, the Commission has read this document in detail and with much interest. The Commission cannot conclude, however, that it bears upon its determination of the merits in this case. Every single point raised in this document was brought out at trial by either witnesses for the SCCTA or the Company and the Commission continues to be persuaded by Southern Bell's expert witness Prophitt. (Tr. Vol. I, pp. 81-84, 117, 118; Vol. II, pp. 60-63).

At pages 2-3 of its Petition, the SCCTA alleges that this document shows skepticism about the economics of POTS (Plain Old Telephone Service) alone supporting the fiber network. This very contention was challenged by the SCCTA (Tr. Vol. I, pp. 100-104) and clearly supported by witness Prophitt (Tr. Vol. I, pp. 100-104, 110, 111, Vol. II, pp. 60-64).

Next, regardless of what may or may not appear in an unsworn paper from another jurisdiction, witness Prophitt testified under oath that any CATV transport profits would inure to the benefit of the local ratepayer.[4] (Tr. Vol. I, pp. 82, 113).

[4]Furthermore, although this document is not evidence and is not relied upon in our determination of Southern Bell's appropriate depreciation levels, the very passages of this document relied upon by SCCTA to demonstrate this alleged inconsistent position, in fact demonstrate the exact opposite. The first sentence of the first passage states "Indications are good that POTS alone will do the job of making copper replacement economic beginning in the mid-90's." Similarly, the second passage begins, "In the mid-90's, two events of fundamental importance occur: (1) copper loops begin to be rapidly retired and replaced by fiber solely based on POTS economics ... ." (See page 3 of SCCTA Petition for Rehearing.)
(Continued on next page)

Regardless of Bell's intention in that regard, however, the determination of the regulatory and accounting treatment of services offered via this regulated utility's network is the Commission's and not the Company's.

II. PROPRIETARY EVIDENCE SOUGHT TO BE INTRODUCED BY THE SCCTA WAS EXCLUDED PROPERLY.

The SCCTA also alleges procedural error in the Commission's refusal to allow the introduction of certain proprietary documents at trial. Notwithstanding the SCCTA's portrayal of the facts leading to the Commission's ruling, a review of Hearing Exhibit Two supports the decision.

On February 2, 1990, counsel for the SCCTA and one of its expert witnesses entered into a "Proprietary Agreement" with Southern Bell. See, Hearing Exhibit Two. That agreement outlines the terms and conditions under which access to the proprietary documents would be allowed. Paragraphs 3 and 4 of that Agreement set forth the agreement of Southern Bell and SCCTA and, therefore, are the linchpin of our decision:

* * *

> 3. That SCCTA will promptly notify Southern Bell of its desire to use in the course of this proceeding information obtained as a result of its examination of the involved proprietary documents, including but not limited to any proffer of evidence. If any

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Thus, the paper is consistent with Mr. Prophitt's testimony. In fact, the entire paper is based upon the assumption that POTS economics alone will drive the replacement of copper with fiber in the mid-90's.

> such use is planned, the affected parties will meet for purposes of attempting, in good faith, to establish a procedure which will accommodate the needs of SCCTA while at the same time insuring the nondisclosure of proprietary and confidential information to the South Carolina Public Service Commission (the "Commission") for resolution in advance of hearings in this cause; and
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> 4. That each party warrants that it will act in good faith and will not do anything to deprive the other party of the benefit of this Agreement and that the parties will submit initially to the Commission any questions concerning compliance with this Agreement.

(emphasis added).

Hearing Exhibit Two reveals that the SCCTA's notification to Southern Bell of its intent to use one of the documents reviewed was in the form of a facsimile transmission made well after the normal close of business at 7:31 p.m. on the night before the hearing. Actual receipt of this request by Southern Bell did not occur until less than two hours before these complex hearings were scheduled to begin.

It is simply not possible to interpret the SCCTA's request as "prompt notification" as required by the contractual agreement into which the parties entered, nor is it possible, less than two hours before a hearing begins, for the parties to meet and establish a procedure to accommodate the desires of the SCCTA and the proprietary interests of Southern Bell. As the SCCTA did not adhere to the terms under which access was allowed to these

documents, it may not now complain that the exclusion thereof was error.

Further, a thorough review of the record reveals that counsel for the SCCTA failed to make any offer of proof on the record to preserve for appeal the contentions now raised. As stated by our Court of Appeals in Maine v. K-Mart Corp., 375 S.E.2d 311 (S.C. App. 1988):

> A trial lawyer must, with all deference to the court, preserve his client's position in order to lay a foundation for appeal; to this extent an attorney is required to be assertive. For example, no authority is required for the proposition that an attorney must, after moving that the jury be excused, proffer for the record testimony to which an objection has been sustained.

Id. at 313; accord: Ward v. Epting, 351 S.E.2d 867, 290 S.C. 547 (S.C. App. 1986); Vause v. Mikell by Solomonic, 348 S.E.2d 187, 190 S.C. 65 (S.C. App. 1986); Gold Kist, Inc. v. Citizens and Southern Nat'l. Bank of S. C., 333 S.E.2d 67, 286 S.C. 272 (S.C. App. 1985).

Even if the SCCTA's request to Southern Bell to introduce the evidence in question had been made timely, which it was not, the failure of counsel to make an offer of proof to preserve the issue for appeal forecloses our consideration thereof after the close of the evidence. See, also, Rule 103-873, Vol. 26, S.C. Code (Law. Co-op. 1976, as amended)

III. THE COMMISSION'S CONSIDERATION OF DEPRECIATION EXPENSE OUTSIDE THE CONTEXT OF A GENERAL RATE CASE IS APPROPRIATE.

Prior to the commencement of hearings, the SCCTA filed its Motion to Dismiss the proceeding or, alternatively, to hold same in abeyance pending an investigation of Southern Bell's earnings. The SCCTA now asserts error on rehearing of the Commission's denial of that motion. (See: Order No. 90-154 issued on February 13, 1990.) In disposing of the contention on Petition for Rehearing, a review of the record is appropriate to ascertain whether the SCCTA preserved this issue for appeal. The Commission finds that it did not.

First and foremost, following the issuance of Order No. 90-154, no party sought rehearing or reconsideration thereof as is required under Rule 103-881 and Code Section 58-9-1200. As the Rule speaks in terms of "any Order" and the Code refers to an order, the interim nature of Order No. 90-154 does not change the requirement that a Petition for Rehearing must have been filed timely therefrom if an alleged error in denying that Motion was to be reconsidered and/or ultimately appealed.[5]

Secondly, assuming, arguendo, that the issue of the ruling on the SCCTA Motion to Dismiss is properly reconsidered in this Order, which it is not, the prior ruling is affirmed. The

[5]Even assuming, arguendo, that the SCCTA Motion to Dismiss is analogous to a Rule 56 Motion, SCRCP, the failure of SCCTA to make further motions for directed verdict and/or to renew at trial its Motion to Dismiss forecloses the review of these alleged grounds in consideration of the instant Motion for Rehearing.

only error raised by SCCTA is one alleged to occur by the consideration of "a single element of ratemaking - depreciation expense - in isolation and to the exclusion of other relevant elements." In again rejecting this contention, the Commission looks first to Code Section 58-9-350 which expressly confers upon Southern Bell the right to charge its subscribers, as an operating expense, a reasonable sum for depreciation and to credit it to a reserve account for such depreciation. The Code further provides that the Commission may control or limit such depreciation reserves.

Indeed, following the pronouncement by the United States Supreme Court in the Louisiana PSC v. FCC decision, cited at 476 U.S. 355, 106 S.Ct. 1890 (1986) this Commission's authority to establish the appropriate ways and means for the recovery and level of intrastate depreciation expense was enhanced greatly. It is that very decision which allows the Commission, for the first time in twenty-seven (27) years, (Tr. Vol. 1, p. 53) to make a determination independent of the FCC. That ability is extremely important as, in the words of witness Prophitt:

> The South Carolina Commission Staff, as opposed to the FCC Staff, is uniquely qualified to determine what is in the public interest in this state by virtue of their familiarity with the specific requirements and service needs of South Carolinians. The FCC Staff reviews depreciation studies across the nation and attempts to treat them uniformly. This approach ignores South Carolina's unique telecommunications needs.

(Tr. Vol. I, p. 16; See also, S.C. Code Section 1-23-330(4).) The independent analysis of issues related to depreciation requires that the Commission view each witness and weigh his or her credibility. It also requires that the Commission utilize its expertise in the analysis of the facts and expert opinion given and that the Commission applies the directives, set forth by statute and Commission rule, that set the parameters of our discretion, as defined by the Legislature. GTE Sprint Communications Corp. v. PSC, 341 S.E.2d 126 (S.C. 1986); Parker v. PSC, 314 S.E.2d 148 (S.C. 1984).

Here, as in the past, the Commission determined that an increase in depreciation expense can be made without an analysis of rate base, revenues, rate of return, etc. as no rates and charges incurred by the Company's subscribers are at issue. This is not a general rate case and the Commission's interpretation and application of the statutory scheme which underpins the Commission's regulatory powers is consistent with that fact. See, e.g., Faile v. South Carolina Employment Security Commission, 230 S.E.2d 219 (S.C. 1976).

By its Petition, however, the SCCTA asserts that the Commission can only make a determination of depreciation expense when reviewing the totality of Southern Bell's operations. No support is cited for this alleged proposition of law. Indeed, the only arguable source for SCCTA's argument is found at Code Section 58-9-570 which lists factors applied consistently in a general rate

case, not in other type hearings. Given Southern Bell's stipulation that it will not increase local rates for a minimum of one year from the date of hearing (Tr. Vol I, pp. 9-10), it is patently obvious that Code Section 58-9-570 does not apply. Further, as to any allegations of overearnings by Southern Bell, the Commission, sua sponte, takes judicial notice of its procedures and the quarterly surveillance reports filed by the Company and reviewed by the Commission. The Company's earnings are reviewed on a quarterly basis and appropriate action could be taken for any overearnings which may occur.

In addition, the SCCTA's argument totally ignores the method utilized by the vast majority of state commissions, including this Commission and the FCC, to determine the appropriate depreciation expense for telephone utilities. The FCC and most state commissions examine a telephone utility's depreciation rates every three years whether the company has a rate case pending or not. See, e.g., SCPSC Docket No. 86-511, Order No. 87-185; Re: Amendment of Uniform Systems of Accounts for Class A and Class B Telephone Companies, FCC Docket No. 20188, 40 PUR 4th 251 (1981) and Southern Bell v. F.C.C., 781 F.2d 209, 213 (D.C. Cir. 1986). In these triennial reviews, no other expense or earnings factors are considered. This is appropriate because the amount of "plant consumed" by a telephone company is totally and completely independent of its level of achieved earnings. Thus, the Commission's decision to examine in this proceeding Southern Bell's

depreciation expense separately from its earnings is consistent fully with the way the Commission has treated Southern Bell and other telephone companies in the state.

In any event, having failed to preserve this issue in its Motion to Dismiss by either timely petition or at trial, the SCCTA cannot now assert this portion of its alleged error.

IV. THE COMMISSION'S FINDINGS RELATED TO THE RATE OF TECHNOLOGICAL CHANGE ARE SUPPORTED FULLY BY THE RECORD

The SCCTA next asserts that the Commission erred in relying upon witness Prophitt's Fisher-Pry, cost curve and CUCRIT analyses in lieu of the historical analysis urged by SCCTA witness Montgomery.

First, Southern Bell witness Prophitt discussed in detail the need for appropriate capital recovery (Tr. Vol. I pp. 20-23); future technological changes planned for South Carolina (Tr. Vol. I, pp. 21-29); the means by which the Company develops its long term network plan (Tr. Vol. I, pp. 30-37); and a discussion of the reliability of the Fisher-Pry analyses upon which he relied in formulating his expert opinion. (Tr. Vol. I, pp. 31-37; 38-39). In addition, witness Prophitt discussed examples of technological change in the industry (Tr. Vol I, pp. 49-50; 52-53, 77-78; Hearing Exhibit One, Introduction, General Cable Narrative). The Commission accepted witness Prophitt's Fisher-Pry and life cycle analyses as being an appropriate tool for establishing depreciation rates for Southern Bell. No credible evidence was introduced to

rebut the accuracy of this forecast model which was demonstrated to the Commission. (Tr. Vol. I, pp. 34-36) As explained by witness Prophitt:

> Many of the best-managed businesses channel their R&D and capital deployment spending into substitutable technologies guided by the well-known "S-curve" behavior of new technologies. "S-curve" analysis draws on industrial experience to observe that when a technology emerges from the lab, it takes a lot of money and effort to get a small amount of productivity improvement out of the new technology. Graphically, this is the lower portion of the "S" if we plot "productivity" on the Y-axis and the aggregate number of new technology units on the X-axis (See Exhibit #9). As volumes grow, a point is reached where the productivity of the new technology "takes off" to form the nearly vertical portion of the "S-curve."..... In common parlance, "The technology is up on the 'learning curve'" and large improvements in productivity come at very low cost. Ultimately, the technology approaches some performance limitation (usually physical) and "The party's over." As in the case of the lower part of the "S-curve," large amounts of money and effort produce very little productivity improvement in the upper portion of the "S-curve." The firm that is aware of this will shift investment from the embedded technology to the new technology just before this point on the "S-curve" is reached.
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> Two G.E. Researchers, J. C. Fisher & R. H. Pry, took this known behavior a step further to show empirically that the rate of substitution of a new technology for an embedded, dominant technology also follows an "S-curve." In a 1987 response to an FCC staff inquiry, the Technology Forecasting Users Group (a common interest group representing major U.S. and Canadian telephone companies) reported the results of a Technology Futures, Inc. (TFI) study of the more than 200 major technological substitutions that have taken

place in the 19th and 20th centuries. TFI found that over 98% of these technological substitutions exhibited the now-familiar Fisher-Pry (F-P) or "S-curve" pattern. This is persuasive evidence of the predictive power of the F-P method and that Southern Bell's use of this methodology is appropriate.

Using the Fisher-Pry substitution analysis method (F-P Method) and expected Broadband Market Development, my exhibit #5 indicates Southern Bell will have retired all copper cable by about 2010. Note that the copper life cycle shows that growth slows markedly about 1990 and copper cable begins to retire rapidly about 1995. Recall that these dates correspond almost exactly with fiber vs. copper cost curves' "First and second cross-over" points and the life cycle behavior that is expected to occur after these relative cost thresholds are breached. Since the "cost curve" and F-P methods' results independently corroborate one another, it is reasonable to expect that fiber will replace copper cable approximately as depicted in Exhibit #5.

(Tr. Vol I, p. 32, line 4 through p. 34, line 15).

Mr. Prophitt continued, on direct examination:

Q. Based on your own analysis and experience, what other evidence do you have that life cycle analysis in general, and the S-curve or F-P life cycle analysis method in particular yield good results?

A. The Company's first use of life cycle analysis was based on a presentation AT&T made to the FCC, back in September, 1962, wherein AT&T forecasted the life cycles of the Bell System's then-current electromechanical switching technologies. With what must now be described as astonishing accuracy, this 27-year old forecast projected the demise of step-by-step switching equipment by 1990 (see Exhibit #10). The last step-by-step switching machines in South Carolina retired from service in 1989!

However conservative this forecast of the demise of step-by-step switching may seem today, inappropriately long economic lives were routinely prescribed in the mid-1960's. This was based in part on the FCC's refusal to recognize any long-term life analysis "tool" other than historical mortality analysis. Huge reserve deficiencies resulted.

As another proof of the power of life cycle analysis, the company tested the Fisher-Pry (F-P) life cycle analysis method by retrospectively forecasting the replacement of electromechanical (EM) switching equipment with software-controlled electronic switching (ESS) equipment. To insure a demanding test, 1990 was selected as the "start" year even though ESS had achieved less than 2% market penetration at the time. Exhibit #11 is a Fisher-Pry projection of the substitution of ESS for EM switching equipment that would have been generated in 1970 using the 1970 version of the construction budget. Use of 1971, 1972 and 1973 construction program additions and retirements as actuals is standard practice because the minimum two year lag between making the decision to install a new central office (C.O.) and actually "cutting it into service" means projects within this two year span are close to being "etched in stone." So, with no more than 2% actual market penetration and a total of no more than 4% projected penetration Data, an F-P analysis performed in 1970 would have predicted 1980 as the point of 50% market takeover by electronic switching. (See Exhibit #12.) Remarkably, F-P analysis would have forecasted the 50% takeover point within one year of actual occurrence (1981) as early as 1970! This is clearly a persuasive demonstration of F-P analysis power. It is safe to say a 1980 or 1981 50% takeover date was anything but intuitively obvious in 1970. It is not surprising that the depreciation rates prescribed in 1970 did not come anywhere near reflecting that fact. Continuing the comparison, if we were to look at 1980-1989 actuals, we would find that the company's actual electronic for

> electromechanical switching substitution proceeded as shown in Exhibit #12.
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> It is significant that the 100% takeover year for electronic switching would have been forecasted in 1970 as the end of 1991 using the Fisher-Pry Model (Exhibit #12). Actually, the 100% point was achieved by the end of 1989. Let us again note the context of a 1970 F-P analysis: This forecast would have been made 19 years before the event took place, based on 2% actual deployment. Clearly, life cycle analysis is an analytic tool of unmatched predictive power.
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> Q. Do you personally know of any other viable method for estimating long-term economic lives of telecommunications equipment?
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> A. No. Not in Today's ever changing telecommunications technology environment.

(Tr. Vol. I, p. 34, line 17 through p. 37, line 22. See, also, Tr. Vol. I, pp. 76-87; Hearing Exhibit Number One.)

In light of the substantial and convincing evidence outlined above, the Commission continues to support the propriety of forward looking with the benefit of historial analysis as opposed to historical, backward looking only methodologies in determining life projections.

The Commission is also unpersuaded by the testimony of witness Montgomery who appeared on behalf of the SCCTA. He had conducted no studies (Hearing Exhibit Number 6, pp. 10-11, 13, 30-31, 52, 78, 95-96, 114); he was unaware of our prior decisions adopting life cycle and Fisher-Pry analyses (Hearing Exhibit Number 6, pp. 48, 78); he asserted only possible inaccuracies in Southern Bell's studies as he could not point out specific errors, only

possible alleged errors in judgment. (Hearing Exhibit Number 6, pp. 11-12, 13-14, 52-56, 97, 98, 101-102, 115, 128, 136, 140).

Witness Montgomery asserts that he did not conduct his own studies because "it would have to be much more voluminous of an undertaking." (Hearing Exhibit Number 6, p. 144) The fact that Mr. Montgomery did not choose to put forth the effort to conduct independent studies rather than the general attack of "possibilities" upon which his testimony is based is hardly sufficient to persuade the Commission to adopt his position. Therefore, the Commission cannot accept his assertions as credible.

The "cost effectiveness" test urged by SCCTA witness Cresse is also rejected. (Tr. Vol. III, pp. 11-19) Although witness Cresse asserted that a similar "test" was adopted by the Florida Commission while he served as chairman thereof, on cross-examination, it was shown that just three years after the Florida Commission set depreciation rates utilizing witness Cresse's test, Southern Bell was faced with a $156 million (combined) reserve deficiency in just the three metallic cable accounts. (Tr. Vol. III, pp. 25-30) That result hardly endorses witness Cresse's "test" and such a test will not be adopted by the Commission.

The SCCTA next asserts that "there is a distinct lack of evidence to support the conclusion that the premature replacement of copper with fiber will be economic at any point in time." (Petition at p. 6.) That conclusive statement by the SCCTA begs the question as there is nothing in the record to convince us of any "premature

replacement of copper with fiber." Indeed, as stated at hearing by witness Prophitt:

> ... Our study shows that the future economic life of aerial cable was 16 years; underground cable, because it has more trunk facilities, and that's where fiber replaced copper first, 15 years; and buried also 16 years. Now what's really at issue in this case and which our study supports, if by conservatism, is our filing here and our filing here and our agreement with the staff involves 20 years for aerial, much greater than the 16 supported in our study; 21 for underground; 21 for buried.
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> ... The lives that we are proposing in this case are longer than those that even plain old telephone service would support. Okay, having gotten that perspective, we say what do other industries use to depreciate their copper plant. The cable industry uses about 12 years. ...Our filing is longer than our studies. Its longer even than we could support for plain old telephone service. And its certainly a great deal longer than what the cable t.v. industry routinely uses ... at this point I say, what is all the furor about.

(Tr. Vol. I, pp. 81-83; 57-59; see, also, Hearing Exhibit 3; Hearing Exhibit 4, pp. 76, 43-45, 48-52; Hearing Exhibit 1, Introduction, pp. 14-20; General Cable Narrative, pp. 14-27.)

The Commission is of the opinion that the Company's proposed lives, values and reserve estimates are appropriate. They are based upon a tried and proven methodology of estimating future technological change and the impact thereof on the network.

As in the setting of rates of return, it is difficult, if not impossible, to state with absolute certainty that a specific return to the 1/100th decimal place or a specific depreciation life

estimate is absolutely accurate. It is, after all, only after a plant asset has completed its useful life that the true depreciation cost thereof can be known. That lack of absolute precision, however, cannot and should not prevent the Commission from exercising its expertise in analyzing and establishing depreciation levels.

As stated by Mr. Justice Brandeis in United R. & Electric Co. of Baltimore v. West, 280 U.S. 234, 262, 50 S.Ct. 123:

> ... an annual depreciation charge is not a measure of the actual consumption of plant during the year. No such measure has yet been invented. There is no regularity in the development of depreciation. It does not proceed in accordance with any mathematical law. There is nothing in business experience, or in the training of experts, which enables men to say to what extent service life will be impaired by the operations of a single year, or of a series of years less than the service life ... even where it is known that there has been some lessening of service life within the year, it is never possible to determine with accuracy what percentage of the unit's service life has, in fact, been so consumed. Nor is it essential to the aim of the charge that this fact should be known. The main purpose of the charge is that irrespective of the rate of depreciation there shall be produced, through annual contributions, by the end of the service life of the depreciable plant, an amount equal to the total net expense of its retirement.
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> ... It is a bookkeeping device introduced in the exercise of practical judgment to serve three purposes. It preserves the integrity of the investment. ... It serves to distribute equitably throughout the several years of service life the only expense of plant retirement which is capable of reasonable ascertainment - the known cost less the

> estimated salvage value. And it enables those interested, through applying that plan of distribution to ascertain as nearly as is possible, the actual financial results of the year's operation."

The Commission concurs with Mr. Justice Brandeis' discussion. The lives established in this proceeding are within the range of the evidence and are a reflection of the Commission's expertise.

Two final points must be addressed in response to this portion of the SCCTA's Petition. At footnote "4," the SCCTA quotes a portion of witness Prophitt's testimony at Vol. I, p. 132 of the Transcript as being an example of his "speculation." The SCCTA fails, however, to quote the remainder of the exchange on cross-examination that put this speculation into perspective. (Tr. Vol. I, pp. 132-133) Further, the SCCTA's position simply evidences a total lack of understanding of the issues in this case. This hearing represents the tenth time the Commission, the Company, and other interested parties have come together to analyze the impact of the future on the lives of today's plant in service. Indeed, history has shown the approach in past hearings to have been very conservative. See, e.g. Docket No. 86-511-C and the Orders issued therein of which the Commission, sua sponte, takes judicial notice.

This case is not about whether some portions of Southern Bell's construction program may ultimately lead to competition with this intervenor's membership. The issue in this case is actually one, as phased by SCCTA's counsel, of whether or not the Company's estimates of the useful lives of the equipment it has placed in

service are accurate. (Tr. Vol. I, p. 62) The Commission is of the opinion that they are. The depreciation levels approved in this docket are well within the range of the evidence and, based upon the Commission's expert review thereof, the Commission has determined that the rates are reasonable. (See, e.g. United R. & Electric Co., supra; Georgia Power Co. v. Allied Chemical Corp., 212 S.E.2d 628 (Ga. 1976)).

Finally, in its footnote "3," the SCCTA asserts that there is nothing that the Commission can do to assure that Southern Bell will live up to its promise that fiber optic facilities will be deployed only when it is economical so to do. That statement presupposes that the Commission is not mindful of its statutory duty to weigh the sometimes competing interests of utilities and their subscribers and to protect the public interest.

If, however, the Commission was convinced that Southern Bell was engaged in the imprudent investment of capital in the future, then the statutory means exist whereby that portion of the plant investment would be disallowed for ratemaking purposes. For purposes of this proceeding, however, the Commission is persuaded to accept witness Prophitt's testimony that "We have stated time and again -- I want to emphasize it -- we will replace copper when it is economical to do so." (Tr. Vol. I, p. 101, see, also, Tr. Vol. I, p. 105)

V. THE DEPRECIATION RATES ESTABLISHED BY THE COMMISSION ARE BASED UPON THE RELIABLE PROBATIVE AND SUBSTANTIAL EVIDENCE AND THE SCCTA'S REFERENCES TO "USED AND USEFUL" AND "PROPERTY HELD FOR FUTURE USE" ARE MISPLACED

In its Petition the SCCTA claims that the Commission's finding that the depreciation rates proposed by Southern Bell will allow it to maintain a telecommunications network "second to none" is not based upon reliable, probative and substantial evidence as explained in part (c) of the Petition. This is simply not the case.

In October of 1989 Southern Bell's central offices in South Carolina became 100% stored program control (i.e. electronic). Southern Bell's network today is driven by 70% digital switching. (Tr. Vol. I, p. 20) Fifty-nine percent of Southern Bell's equipped interoffice circuit miles in South Carolina are fiber. Thirty-one percent of Southern Bell's feeder routes in South Carolina are fiber. Southern Bell has two "fiber to the home" projects in South Carolina. (Tr. Vol. I, p. 21) This level of modernization exceeds all other states. The power and reliability of this network were amply demonstrated when Hurricane Hugo struck and over 90% of Southern Bell's customers maintained telephone service. (Tr. Vol. I, p. 20) The depreciation rates agreed to by the Commission Staff and Southern Bell and approved by the Commission after hearing will permit Southern Bell to continue to modernize its network. It will allow Southern Bell to be 80% digital switching by the end of 1990 and have fiber in 57% of its

feeder routes by year end 1991. (Tr. Vol. I, p. 21) Thus, the increase in depreciation expense granted Southern Bell will allow it to continue to maintain a state of the art network "second to none." This statement is not based upon speculation but upon Southern Bell's proven track record and the fact that the very facilities Southern Bell proposes to deploy, i.e. digital switches and fiber optic facilities, are the cornerstone of a modern telecommunications network.

Furthermore, the SCCTA appears to be operating under the assumption that the economic lives of telephone plant can be established with absolute certainty. According to the SCCTA "speculation" has no place in establishing economic lives. While it is agreed that pure speculation has no place in regulation, informed opinion does. To expect anyone to be able to estimate the future with absolute specificity completely ignores reality and the fact that when establishing depreciation lives and rates, the Commission is attempting to forecast, with a reasonable degree of accuracy, how long an asset will last. See: United R. & Electric, supra.

Adequate depreciation rates are dependent upon accurate economic life estimates. (Tr. Vol. I, p. 27) Estimates are by their very nature inexact. The Commission is attempting today to project how long a particular asset will last before it is either "worn out" or rendered obsolete by future technological change. Even the California Commission decision relied upon by the SCCTA

states that "If we have learned anything from these proceedings and weighing the issues it is that 'picking' P-lives and FNS values is hardly an exact science ..." (See In Re Pacific Bell, 69 PUR 4th 225 at p. 265)

Although the Commission cannot forecast with exact certainty, "pure" speculation was not relied upon to establish Southern Bell's depreciation rates. The voluminous study prepared by Southern Bell, identified as Hearing Exhibit One has been examined. All the testimony has been considered. The evidence has been weighed and the Commission has accepted as reasonable the depreciation rates adopted in Order No. 90-330.

In support of its allegation that the decision is based on speculation, the SCCTA cites the fact that Southern Bell did not quantify the total costs of Southern Bell's modernizing its network.[6] Again, the SCCTA misses the point of Southern Bell's testimony.

Southern Bell witness Prophitt repeatedly stated that Southern Bell would only place fiber optic facilities when they were more economical than copper for the provision of telephone service (Tr. Vol. I, pp. 100-102, 115, 121) Thus, when Southern Bell deploys fiber optic facilities, it will be less costly than using copper cables or it will not be deployed. It must be remembered that regardless of whether Southern Bell ever deploys

[6]However, See Tr. Vol. II, pp. 4-21.

another foot of fiber optic cable, it must continue to expand and rehabilitate its network to accommodate growth and maintain reliable quality service. The Commission's regulations require it to so act. Thus, it will have to invest in additional outside plant facilities, be they copper or fiber. However, as long as Southern Bell uses the most cost effective facilities, the ratepayer benefits.[7]

The bulk of the SCCTA's arguments appear to be premised upon the assumption that the purpose of depreciation expense is to "fund the costs of replacing copper with fiber." This assumption is erroneous. The purpose of depreciation expense is to allow a telephone company to recover the monies it has invested in existing capital assets, not plant to be placed in the future. (Tr. Vol. I, p. 16). None of the parties to this proceeding, including the SCCTA, have alleged that Southern Bell's investment in copper cables and analog central office switches was imprudent. Nor has any party alleged that these facilities are not both "used and useful" in the provision of telephone service.

Southern Bell is entitled to recover its investment in this plant through depreciation expense. Code Section 58-9-350. As a result, the SCCTA's assertion that "Southern Bell has not demonstrated that these increased (depreciation) expenses represent

[7]As stated in Order No. 90-330, this proceeding is not one in which Southern Bell's annual construction program is at issue.

investment in plant which is used and useful in providing telephone service," (See p. 10 of the SCCTA Petition) is misplaced.

Interestingly, the increase in depreciation expense granted Southern Bell produces the very result sought by the SCCTA. The SCCTA appears to allege that the affect of the Commission's decision will be to inflate Southern Bell's rate base, and, therefore, its revenue requirement. That is not accurate. An increase in depreciation expense increases the depreciation reserve which in turn reduces rate base. The SCCTA acknowledged this fact in its Petition at page 10, "The rate base for a telephone utility is based upon the 'gross plant used and useful in providing public services as reduced by the reserve for depreciation and amortization.'" (emphasis added)

Again, the flaw in the SCCTA's argument is its referring to plant which will be placed in the future, in particular "fiber optic cabling," rather than existing plant. Depreciation expense relates to the recovery of investment in existing plant. If Southern Bell invests in property which is not used and useful in the provision of telephone service, the Commission will either disallow that expense or exclude the plant from rate base. However, that is not an issue which needs to be addressed in this proceeding. It seems the SCCTA wants the Commission to dictate to Southern Bell the types of plant in which it can invest in the day to day managing of its business.

The Commission can, does and will exercise regulatory control over all jurisdictional utilities. If Southern Bell takes action which impacts detrimentally the ratepayers of this state, the Commission will exercise its regulatory authority over Southern Bell. This case, however, is not about Southern Bell's managerial prudence, nor is it about whether its construction program is prudent. Rather, it is about whether an expanding technology will drive the replacement of plant more rapidly and the appropriate level of depreciation expense resulting therefrom. It has absolutely nothing to do with "used and useful" plant.

Furthermore, as stated earlier, Southern Bell witness Prophitt repeatedly explained that Southern Bell will only replace copper cable with fiber optic cable when it is the most economical means of providing telephone service. (Tr. Vol. I, pp. 101, 115, 121) Similarly, all fiber optic cable placed thus far by Southern Bell is in service. Thus, when Southern Bell placed fiber optic facilities, they immediately became "used and useful." The SCCTA's own witness testified that fiber optic cable is today the most economical medium for interoffice trunking purposes. He also testified that today, fiber is in many instances, the most economical transmission medium in the feeder portion of the network (Tr. Vol. II p. 117) Even the SCCTA's own President testified in a manner consistent with the Company's life projections for copper. (Hearing Exhibit Four, pp. 49, 74, 76, 88) Thus, for a large portion of outside plant applications, fiber optic facilities are

the most economical transmission media today. Importantly, the SCCTA's witness was confident that advances in fiber technology would continue to occur, therefore, it is very probable that fiber will soon become the most economical facility in the distribution portion of the network as well. (Tr. Vol. II, p. 118) As a result, based on Southern Bell's representation that it will not place fiber in its distribution routes unless it is the most cost effective means of providing telephone service, when the fiber is placed, it will immediately become used and useful.[8]

VI. THOSE PORTIONS OF SOUTHERN BELL'S DEPRECIATION STUDY DISCUSSING VIDEO SERVICES WERE NOT RELEVANT TO THIS PROCEEDING

The SCCTA alleges that Southern Bell witness Prophitt's testimony contradicted Southern Bell's Depreciation Study, in particular those portions discussing video services, and, therefore, his testimony was not reliable. Mr. Prophitt was cross-examined at length by the attorney for the SCCTA on this very issue. (Tr. pp. 81-84) Mr. Prophitt explained that the study supported projected lives of 16 years, 15 years and 16 years,

[8]Nowhere in the testimony presented is there any allegation concerning whether or not a portion of Southern Bell's rate base is comprised of USOA, Account 2002.0000, Property Held for Future Use. Even if this proceeding concerned that issue, which it does not, there is no evidentiary basis to support any adjustments to rate base.

respectively,[9] for Southern Bell's aerial, underground and buried copper cables. (Tr. Vol. I, p. 82) At the time the Study was prepared, in 1988, it was thought that video services revenues would be needed to support these lives, that is why the discussion of video services was included in the Depreciation Study. However, the projected lives which were ultimately agreed to by the Company and the Commission Staff of 20, 21, 21 years and which are the subject of this proceeding do not need any video services revenues in support thereof whatsoever.

In fact, Mr. Prophitt explained that these projected lives were even longer than those supported by the provision of plain old telephone service alone. (Tr. p. 82). A POTS alone market would support lives of 18 years, 17 years, 18 years (Tr. p. 82). So, the fact that Mr. Prophitt testified that the depreciation rates agreed to by Southern Bell and the Commission Staff are wholly supported by POTS economics alone is not inconsistent with Southern Bell's Depreciation Study because the "study" supports much shorter lives and higher depreciation rates.

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[9]Mr. Prophitt's explanation of this matter immediately followed the transcript quote contained in Footnote 4 of the Petition. (It should be noted that the transcript reference in footnote 4 is in error, the quote and Mr. Prophitt's explanation are found on pages 81-84 of Volume I).

VII. THE COMMISSION'S "THEORETICAL RESERVE" ANALYSIS IN SETTING DEPRECIATION RATES IS APPROPRIATE; DID NOT MISCHARACTERIZE MR. GILLETT'S TESTIMONY AND PROPERLY RELIED UPON MR. PROPHITT'S FISHER-PRY AND COST CURVE ANALYSES

According to the SCCTA, the Commission erred because it relied upon a "theoretical reserve" analysis when calculating the appropriate depreciation rates for Southern Bell. (See Petition, p. 15) This statement is incorrect, the Commission did not use a "theoretical reserve" analysis.

The phrase "theoretical reserve" analysis is a term of art which refers to a depreciation method utilizing the whole life depreciation methodology. (Tr. Vol. II, p. 24) This methodology was not relied upon nor used by the Commission in any manner. If the SCCTA is using the phrase "theoretical reserve" synonymously with reserve requirement, then it is true the Commission did examine Southern Bell's reserve requirement as explained on pages 4-6 of Order No. 90-330. The Commission compared Southern Bell's depreciation reserve requirement to its book reserve and found a $250 million reserve deficiency. (Tr. Vol. I, p. 18) In the Commission's opinion this large depreciation reserve deficiency is yet just another indicator that existing depreciation rates should be revised. (Tr. Vol. II, pp. 24-25)

The SCCTA argues that no adjustment should be made in a company's depreciation rates unless there is a "clear indication that the theoretical reserve (reserve requirement) is substantially different from the current book reserve." It cannot be denied that

a reserve requirement which is $250 million greater than the book reserve is a substantial difference. Therefore, even using the SCCTA's reasoning, it was entirely appropriate for the Commission to rely upon Southern Bell's reserve requirement to support its conclusion that Southern Bell's depreciation rates should be increased.

The Commission did not use the results of its depreciation reserve requirement examination to establish depreciation rates. In fact, the so-called theoretical reserve played absolutely no part in the setting of rates.

Simply stated, the formula used to establish a depreciation rate is: 100% of original cost of asset, minus book reserve percent, minus future net salvage percent divided by economic life (Tr. Vol. I, p. 18). Thus, the reserve requirement is not a factor in setting these rates.

The SCCTA also charges that the Commission mischaracterized SCCTA witness Thomas Gillett's testimony "by quoting him for the proposition that fiber is the medium of choice for interoffice and feeder plant."

The exact testimony given by Mr. Gillett on cross-examination was as follows:

> Q. The cables that connect offices are called inter-office trunks?
> A. Inter-office facilities, inter-office trunks, okay.
> Q. And we can agree, can't we, that fiber optics is the appropriate facility, as a

rule, for connecting central offices?
A. Absolutely.

* * *

Q. Fiber in the feeder is, in certain situations, the most economic choice there, is it not?
A. Yes, it is.
Q. Okay, and you, in your opinion, don't feel that technology is at a standstill? It is going to continue to advance. You would agree with that, wouldn't you?
A. I would agree that technology is going to continue to advance.

(Tr. Vol. II, pp. 117-118)

This testimony in conjunction with that of witness Prophitt and witness Newber fully supports the conclusion drawn from the evidence presented in this proceeding, i.e. fiber optics has established itself as the most economical transmission medium for interoffice trunks; fiber is the most economical transmission medium in the feeder portion of the network in many instances; and will move further out into the distribution portion of the network as technology advances. (See, also, Hearing Exhibit One, sub-part 1, General Cable Narrative, pp. 5, 7-10, 14, 15)

The SCCTA also asserts that the Commission erred by relying upon Mr. Prophitt's cost curve and Fisher-Pry analyses for the substitution rates of fiber in the distribution network. As explained earlier, the Commission has relied upon the Fisher-Pry analyses when weighing the appropriateness of proposed depreciation rates. No evidence was produced which would demonstrate that this was not appropriate. See, supra, at pp. 13-17.

According to Mr. Prophitt, his technology life cycle analysis (i.e. Fisher-Pry analysis) and copper cost curves indicate that copper will have been retired from the network by the year 2010. (Tr. Vol. I, p. 34) Using these analyses, Southern Bell claimed the projected lives of its aerial, underground and buried metallic cables are 16 years, 15 years and 16 years, respectively. (Tr. Vol. I, p. 81) However, following the three-way meeting between Southern Bell, the FCC, and the Commission Staff, Southern Bell and the Commission Staff agreed to lives of 20 years, 21 years, and 21 years, respectively. (Tr. Vol. I, pp. 24, 82) Based upon this compromise, these lives are the basis of the depreciation rates proposed by Southern Bell in this proceeding. Thus, Mr. Prophitt's Fisher-Pry analysis supports much shorter depreciation lives than those adopted by the Commission. Nonetheless, they are clearly within the range of life estimates advanced by the parties. The Commission relied upon Mr. Prophitt's analyses to support its determination that the projected lives of 20 years, 21 years and 21 years for the three metallic cable accounts agreed to by Southern Bell and the Commission Staff were appropriate.

Having discussed the specific allegations of the SCCTA in its Petition and having addressed same by specific finding and references to the record, the Commission makes further findings of fact and conclusions of law, to wit:

FINDINGS OF FACT

1. In April of 1989 Southern Bell submitted its triennial Depreciation Study to the Commission Staff, (Tr. Vol. I, p. 15).

2. This Depreciation Study proposed an annual increase in Southern Bell's intrastate depreciation expense of $30 million. (Hearing Exhibit One; Tr. Vol. I, p. 24).

3. In July of 1989 representatives of Southern Bell, the Commission Staff and the FCC met at the triennial "Three-Way Meeting" to examine Southern Bell's depreciation rates (Tr. Vol. I, pp. 11-12; Vol. III, pp. 37-38).

4. As a result of the "Three-Way meeting," Southern Bell and the Commission Staff compromised and agreed upon the appropriate depreciation rates for all of Southern Bell's accounts. These depreciation rates produce an annual increase in depreciation expense of $14.8 million, $16 million less than that proposed by Southern Bell in its study. (Tr. Vol. I, p. 24; Vol. III, p. 40; Hearing Exhibit One, subpart 3, pp. 1-4).

5. Of this $14.8 million depreciation expense increase, $6 million relates to the amortization of Southern Bell's net plant investment in step-by-step and crossbar accounts over three years. Although the last step-by-step and crossbar facilities were retired in 1989, significant investment remains in Southern Bell's rate base. (Tr. Vol. I, p. 24; Hearing Exhibit One, General Electronic Switching Narrative, pp. 1-13).

6. On September 1, 1989 Southern Bell filed with the Commission revised depreciation rates consistent with the agreement reached between Southern Bell and the Commission Staff and requested the Commission approve these rates effective January 1, 1990. (Tr. Vol. I, p. 15, 14; Vol. III, p. 39).

7. The Commission Staff recommended that the Commission approve Southern Bell's proposed depreciation rates (Tr. Vol. III, p. 39; Hearing Exhibit One, Eight).

8. The depreciation rates filed by Southern Bell are supported by Southern Bell's Depreciation Study (contained in Hearing Exhibit No. 1) which is in excess of 700 pages; a fiber optics cost curve analysis; a Fisher-Pry technology life cycle forecasting analysis and several economic alternative analyses relating to central office equipment known as "CUCRIT" studies ("Capital Utilization Criteria") (Tr. Vol. I, p. 18, 28, 32-34).

9. Although 29 accounts were represcribed in this proceeding, the testimony presented by the SCCTA addressed only the three metallic cable accounts and the Consumer Advocate did not present testimony challenging any portion of the Company's filing. (Tr. Vol. I, p. 1 - Vol. III, p. 49).

10. The Fisher-Pry technology life cycle forecasting analysis, performed by Southern Bell related to the substitution of fiber optic cable for metallic cable, is considered to be a valuable tool to forecast the substitution of a new technology such

as fiber optics for an embedded, dominant technology such as copper cable. (Tr. Vol. I, pp. 30-37)

11. In fact, of the more than 200 major technological substitutions that have taken place in the 19th and 20th centuries, over 98% followed the Fisher-Pry, also known as "S-curve" pattern. (Tr. Vol. I, p. 33; Hearing Exhibit One). In September of 1962, a Fisher-Pry type life cycle analysis projected the complete retirement of all step-by-step switching equipment by 1990. The actual retirement date was 1989. Southern Bell's fiber optic Fisher-Pry analysis indicates that beginning in the mid-1990's, rapid retirement of copper will begin and all copper will have been replaced with fiber by the year 2010. (Tr. Vol. I, pp. 21, 22; Hearing Exhibit No. 1, subpart 5).

12. Southern Bell's fiber cost curve study indicates that in the mid-90's fiber will become more economical than existing copper cables. The cost trend assumptions used in this study of -10% for fiber cable and -14% for fiber electronics were not disputed or challenged by any party and are supported by a macroeconomic study performed by the Bethesda Research Institute which finds that fiber optic system costs will decline 10% to 15% annually. (Tr. Vol. I, pp. 30,31; Hearing Exhibit No. 1, subpart 4)

13. The sole use of historical retirement patterns is not proper in this proceeding given the rapid pace of technological

change in the telecommunications industry. (Tr. Vol. I, pp. 26, 51, 85, 86).

14. Historical mortality analysis and retirement patterns do not take into consideration recent advances in technology and the affects of technological obsolescence. By simply looking at the past, the future is ignored (Tr. Vol. I, p. 78).

15. The sole use of historical retirement patterns produces illogical results. All parties agreed that fiber is the most economical transmission medium to use in the interoffice trunking portion of the network. (Tr. Vol. I, p. 117) A large portion of the copper cabling in the underground metallic account is interoffice trunking. (Tr. Vol. I, p. 85) Thus, the most rapid rate of substitution of fiber for copper is occurring in the underground account. Yet, historical retirement patterns indicate that copper cables in the underground account have the longest lives, i.e. 45.3 years. (Tr. Vol. I, pp. 84, 86) Historical retirement patterns produce the illogical result that the underground metallic account, which current advances in technology indicate should have the shortest life, has the longest life.

16. Fiber optic cable has much greater capacity and potential bandwidth than copper, is easier to install and is not affected by electromagnetic interference. (Hearing Exhibit No. 1, subpart 1, page 14 of cable narrative).

17. Fiber is today the most economical transmission medium in the interoffice trunking portion of the network. (Tr. Vol. II, p. 117).

18. In many instances today, fiber is the most economical transmission medium in the feeder portion of the network. (Tr. Vol. II, p. 118)

19. As technology advances, the use of fiber will expand further and further out into the network. (Tr. Vol. I, pp. 30-34, 76; Vol. II, p. 118).

20. Southern Bell's Depreciation Study (Hearing Exhibit No. 1, subpart 7) supports projected lives of 16 years, 15 years and 16 years, respectively, for the aerial, underground and buried metallic cable accounts. (Tr. Vol. I, p. 82).

21. The projected lives filed by Southern Bell which were recommended by the Commission Staff and approved by the Commission are 20 years, 21 years and 21 years. (Hearing Exhibit One, subpart 3).

22. The much longer projected lives adopted by the Commission Staff are conservative and are amply supported by Southern Bell's Fisher-Pry analysis, fiber cost curve study and Depreciation Study. (Hearing Exhibit One, Introduction, General Cable Narrative, and Tr. Vol. I, pp. 35-39; 53; 75-82).

23. No substantive testimony or evidence relating to any of the 29 accounts to be represcribed in this proceeding other than the three metallic cable accounts, was presented by the

intervenors. Two of the SCCTA's witnesses mentioned switching equipment and one of them mentioned circuit equipment, however, neither of these two witnesses presented any real evidence or offered any factual or concrete data regarding this equipment. (Tr. Vol. II, p. 99; Vol. III, p. 15)

24. As of January 1, 1989, Southern Bell's book depreciation reserve was approximately 30%. (Tr. Vol. I, p. 18) As of January 1, 1989, Southern Bell's reserve requirement was 43%. (Tr. Vol. 1, p. 18) This reserve deficiency indicates existing depreciation rates should be revised.

25. Southern Bell, notwithstanding the reserve requirement deficiency referenced in Finding of Fact 25 has developed a telecommunications network in South Carolina which is "second to none." (Tr. Vol. I, pp. 20-24)

26. Southern Bell's central offices in South Carolina are now 100% stored program control, i.e. electronic (Tr. Vol. I, p. 20)

27. The Company's switching plant is today approximately 70% digital (Tr. Vol. I, p. 18)

28. Fifty-nine percent of Southern Bell's interoffice equipped circuit miles are fiber. (Tr. Vol. I, p. 21)

29. Thirty-one percent of Southern Bell's feeder routes are fiber. (Tr. Vol. I, p. 21)

30. Southern Bell has two "fiber to the house" projects in place in South Carolina. (Tr. Vol. I, p. 21)

31. Approval of the depreciation rates recommended by the Commission Staff and requested by Southern Bell will allow Southern Bell to continue to modernize its network. (Tr. Vol. I, pp. 21-23)

32. Southern Bell has stipulated that regardless of the outcome of this proceeding, it will not file for an increase in rates in its 1FR and 1FB basic service rates for a period of at least one year from the date of the hearing. (Tr. Vol. I, p. 9 and 10)

33. Existing depreciation rates do not adequately correlate with the rapid rate of technological change being experienced by the telecommunications industry. (Tr. Vol. I, pp. 15-16, 109-112).

34. A depreciation rate is determined by subtraction of the reserve and future net salvage percentages from 100% and then dividing by the asset's group's economic life. (Tr. Vol. I, p. 18).

35. As of January 1, 1989, Southern Bell's adjusted book depreciation reserve ratio was only 30% - about $250 million short of its 43% reserve requirement. (Tr. Vol. I, p. 18).

36. The consequences of deferred capital recovery are: inflated rate base, inflated earnings requirement, higher total revenue requirement, slower rate of plant modernization, higher operating costs and poorer service quality, a competitive

disadvantage in attracting business to the State. (Tr. Vol. I, p. 19).

37. As all step by step and crossbar switching offices have been replaced in South Carolina, the remaining investment should be removed from rate base via amortization over three years. (Tr. Vol. I, pp. 24-25).

38. The regulated telecommunications industry has come to rely on the life cycle analysis to develop network plans. Referred to as "Fisher-Pry" analysis, "learning curve" or "S-curve" analysis, these long-term planning tools also have been widely used by non-regulated companies for some time to develop technology and product life cycles. (Tr. Vol. I, p. 29)

39. The transition from copper to fiber throughout the network is inevitable and the "avalanche" retirement point of obsolete copper technologies should occur in the mid-1990's (Tr. Vol. I, pp. 30-31, 109-112; Hearing Exhibit One, subparts 4, 5, 8).

40. Of the more than 200 major technological substitutions that have taken place in the 19th and 20th centuries, over 98% of them exhibited the now-familiar Fisher-Pry pattern. This demonstrates the predictive power of this methodology. (Tr. Vol. I, p. 33). The use of historical analysis, only without more, however, produces distorted results. (Tr. Vol. I, pp. 84-86, 101-104).

41. The depreciation rates proposed by the Company are necessary to keep South Carolina's infrastructure on the leading

edge if the State is to attract and retain large business customers (Tr. Vol. I, p. 50; Tr. Vol. II, p. 41, 51-52)

42. Southern Bell's proposal in this docket, which reflects a compromise between the Company and the Commission Staff, results in depreciation rates which are adequate to allow the Company to continue its established rate of modernization of the network (Tr. Vol. I, p. 50)

43. Southern Bell's proposal in this docket does not rely on the expectation that the network will transport video, much less that the Company would someday provide CATV programming. The compromise rates before us are even longer than those which would be supported if the network was used solely for "Plain Old Telephone Service" (POTS). (Tr. Vol. I, pp. 50-51, 75-76, 128-130)

44. Ultimately, depreciation has to be matched with cash flow (Tr. Vol. I, p. 61)

45. In the Company's filing, emphasis was placed on the so-called major accounts that involved 75-80 percent of it total investment--analog switching, digital switching, circuit equipment and three copper cable accounts. In virtually all the others, the underlying component remain unchanged. (Tr. Vol. I, p. 69)

46. The projected lives established by the FCC, and recommended by SCCTA witness Montgomery, for Southern Bell's aerial, underground and buried metallic cables are 22 years, 28 years and 23 years, respectively. (Tr. Vol. II, pp. 55)

47. The lives supported by the Company's study for the three copper cable accounts are: aerial cable - 16 years; underground cable - 15 years; buried cable - 16 years. These lives would assume video transport is being done by Southern Bell. If POTS revenue only is considered, lives of 18, 17 and 18 years are supported. The filing in this case, however, is for lives of 20, 21 and 21 years. These proposed lives are very conservative. (Tr. Vol. I, pp. 82-83; Hearing Exhibits One, Eight; Tr. Vol. II, pp. 19-22)

48. The cable television industry typically depreciates its coaxial cable plant over a 12 year period. (Tr. Vol. I, p. 83; Hearing Exhibit One, subpart 3, p. 1)

49. In setting depreciation lives for the three copper cable accounts, the fact that copper and fiber, today, can essentially accomplish the same technical function is not relevant. Rather, what is relevant is the conclusion that, in the future, fiber will do it cheaper than copper. (Tr. Vol. I, pp. 99-102,113-114)

50. Fiber plant will be substituted with copper in Southern Bell's network when it is economical so to do. (Tr. Vol. II, p. 15).

51. The so-called "theoretical reserve" is an antiquated term of art which relies upon a depreciation method that is no longer considered valid, i.e., the whole life depreciation method. Comparing a Company's book depreciation reserve to its reserve

requirement does serve, however, as an indicator of the adequacy of existing depreciation levels. (Tr. Vol. II, pp. 24-35)

52. The so-called "CUCRIT" analyses, while utilized in determining whether specific plant investments should be made, do not yield depreciation lives for use in this proceeding. (Tr. Vol. II, pp. 39-40; 57-60)

53. The separation factor utilized by Southern Bell at time of hearing was 0.74. Use of this multiplier will yield intrastate figures from the study. (Tr. Vol. II, pp. 42-43)

54. The use of witness Cresse's cost effectiveness test in Florida resulted in a reserve deficiency in the three metallic cable accounts of in excess of $156 million in just three years. (Tr. Vol. III, pp. 26-28; Hearing Exhibit 7)

55. Based on plant investment as of January 1, 1989, the Staff recommendations will result in an increase in depreciation and amortization expenses in the amount of $20,055,000 on a combined basis. For intrastate purposes, this amount will be $14,850,000. (Tr. Vol. III, p. 40)

56. The final agreement reached between the Company and the Staff is approximately 50% of the Company's initial proposal, on an intrastate basis. (Tr. Vol. III, p. 40; Hearing Exhibit Eight)

57. The proposed depreciation expense level increase of approximately $14.8 million is in the public interest. (See: supra, pp. 23-34 which is incorporated herein by reference)

58. The following accounts' lives, salvage and depreciation components are appropriate:

A) Account 2112 Motor Vehicles (Hearing Exhibit Eight, One, All States' Narrative, pp. 1-2; Sub-Exhibit 2, 3; 1989 Proposed Rate Parameter Summary; Summary of Rates, Introduction pp. 13-16)

B) Account 2114-16 Spl. Vehicles and Work Equipment (Hearing Exhibit Eight, One, All States' Narrative, pp. 1-2; Sub-Exhibit 2, 3; 1989 Proposed Rate Parameter Summary; Summary of Rates, Introduction pp. 13-16)

C) Account 2121 Buildings (Hearing Exhibits Eight, One, All States Narrative p. 1; Introduction Attachment One; Sub-Exhibit 2,3; 1989 Proposed Rate Parameter Summary; Summary of Rates, Introduction pp. 13-16).

D) Account 2122 Furniture (Hearing Exhibits Eight, One, All States' Narrative p. 1; Sub-Exhibit 2,3; 1989 Proposed Rate Parameter Summary; Summary of Rates; Introduction pp. 13-16).

E) Account 2123 Office Equipment, (Hearing Exhibit Eight, One, All States' Narrative, pp. 1-2; Sub-Exhibit 2,3; 1989 Proposed Rate Parameter Summary; Summary of Rates; Introduction pp. 13-16).

F) Account 2124 Computers, (Hearing Exhibit Eight, One, All States' Narrative, pp. 1-2; Sub-Exhibit 2,3; 1989 Proposed Rate Parameter Summary; Summary of Rates; Introduction pp. 13-16).

G) Account 2211 Electric Switching Analog (Hearing Exhibit Eight, One, General Electronic Switching; subpart 11, Introduction, All States Narrative; 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

H) Account 2212 Electric Switching - Digital (Hearing Exhibit Eight, One, General Electric Switching; subpart 11, Introduction, All States Narrative; 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

I) Accounts 2215.1, 2215.2 Step by Step; Crossbar (Hearing Exhibit Eight, One; Switching Narrative; subparts 2, 3, 8, 11; Introduction; All State Narrative; S. C. Narrative, 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

J) Account 2220 Operator Systems (Hearing Exhibits Eight, One, Introduction, All States' Narrative, Introduction, 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

K) Account 2231 Radio (Hearing Exhibits Eight, One, Introduction, All States' Narrative, 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

L) Account 2232 Circuit (Hearing Exhibit Eight, One, Introduction, subpart 1, 3, 4; 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

M) Account 2311 Station Apparatus (Hearing Exhibits Eight, One, Introduction, pp. 13-16, All States Narrative, 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

N) Account 2341 Large PBX (Hearing Exhibits Eight, One, Introduction, Attachment 1; 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

O) Account 2351 Public Telephone (Hearing Exhibits Eight, One, Introduction, All States Narrative, 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

P) Account 2362 Other Terminal Equipment (Hearing Exhibits Eight, One, Introduction, Attachment 1; 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

Q) Account 2411 Poles (Hearing Exhibits Eight, One, All States Narrative, Introduction, 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

R) Account 2421.1 Aerial Cable Metallic (Hearing Exhibits Eight, One, Introduction, General Cable Narrative, and Specific Transcript References set forth, infra, 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

S) Account 2421.2 Aerial Cable Fiber (Hearing Exhibits Eight, One, All States Summary, General Cable Narrative, 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

T) Account 2422.1 U. G. Cable Metallic (Hearing Exhibits Eight, One, Introduction, General Cable Narrative, and Specific Transcript References set forth, infra, 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

U) Account 2422.2 U. G. Cable Fiber (Hearing Exhibits Eight, One, All States Summary, General Cable Narrative, 1989 Proposed Rate Parameter Summary;

Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

V) Account 2423.1 Buried Cable Metal (Hearing Exhibits Eight, One, Introduction, General Cable Narrative, and Specific Transcript References set forth, infra, 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

W) Account 2423.2 Buried Cable Fiber (Hearing Exhibits Eight, One, All States Summary, General Cable Narrative, 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

X) Account 2424 Submarine Cable (Hearing Exhibits Eight, One, Introduction, All States Narrative, 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

Y) Account 2426 Intrabuilding Cable (Hearing Exhibits Eight, One, Introduction, All States Narrative, 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

Z) Account 2431 Aerial Wire (Hearing Exhibits Eight, One, Introduction, All States Narrative, 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

AA) Account 2441 Conduit (Hearing Exhibits Eight, One, Introduction, All States Narrative, 1989 Proposed Rate Parameter Summary; Statement A-VG/ELG; subpart 2; subpart 3; subpart 14).

59. The SCCTA failed to make a timely request of Southern Bell for the SCCTA's proposed use of proprietary data; said notice being required by an agreement between the parties as a condition of review of the documents in question. (Hearing Exhibit Two).

CONCLUSIONS OF LAW

1. The Commission is vested by the General Assembly with general regulatory oversight of public utilities in South Carolina. Code Section 58-3-140.

2. The Commission may regulate the amount of depreciation expense charged by a telephone utility; however, every telephone utility shall have the right to charge annually as an operating expense a reasonable sum for depreciation and credit it to a reserve account for such purpose. Code Section 58-9-350.

3. The factors set forth in Code Section 58-9-570 apply only to "rates" charged to subscribers for use of telecommunications charges as set forth in a telephone utility's tariffs. This Code section has never been construed by the Commission to apply to the establishment of depreciation expense. Indeed, this provision of the Code applies solely to a general rate

case. See, also, Faile v. S. C. Employment Security Commission, 230 S.E.2d 219 (S.C. 1976).

4. The expectation of absolute precision in estimating lives for various classes of plant is not required under the law. Rather, the Commission must consider the evidence before it and, utilizing its expertise, establish depreciation lives and within the range of evidence before it. United R. & Electric Co. of Baltimore v. West, 280 U.S. 234, 50 S.Ct. 123 (1930); Louisiana PSC v. F.C.C., 476 U.S. 355, ___ S.Ct. ___ (1986); Parker v. PSC, 314 S.E.2d 148 (S.C. 1984); Code Section 1-23-330 (4);

5. The SCCTA did not exercise due diligence in seeking to obtain all possible documents prior to trial. It cannot assent "newly discovered evidence" as it cannot make the requisite showing. Bettis v. Busbee, 323 S.E.2d 536 (S.C App. 1984)

6. Following a ruling which prevents a party from introducing evidence, counsel must make an offer of proof if he or she is to preserve that issue for appeal. Maine v. K-Mart Corp., 375 S.E.2d 311 (S.C. App. 1988); Rule 103-873, Vol. 26, S. C. Code.

7. A party must either appeal from an Order of the Commission denying its Motion to Dismiss or renew that Motion at the close of the evidence. Having done neither, the issues raised by that Motion are not properly preserved for appeal. Code Section 58-9-1200; Rule 103-881;

8. The level of depreciation expense approved in our Order No. 90-330 and affirmed hereby is in the public interest and satisfied the requirements of Code Section 58-9-350.

NOW THEREFORE, having reconsidered the record in the specific context of the issues raised by the SCCTA,

IT IS ORDERED:

1) That Order No. 90-330 is affirmed and is supplemented by the provisions of this Order including the narrative portion, findings and conclusions hereof;

2) That the Petitioners' request for Stay of the Operation of our Order is denied as no foundation has been laid therefore and no offer of security to protect the Company from having to seek sources of cash in the debt market was offered. Further, under our determination that the proposed changes in depreciation levels are in the public interest, a stay of the operation of our Order would be in conflict therewith.

BY ORDER OF THE COMMISSION:

Chairman

ATTEST:

Executive Director

(SEAL)